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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2017

Course Code: CH307

Course Name: COMPUTER PROGRAMMING IN C++ (CH)

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

1	a)	Define Object-Oriented Programming. Explain the salient features of OOP.	(10)
	b)	Write a program to read two numbers from the keyboard and display the largest value on screen.	(5)
2	a)	Explain conditional operator with an example.	(5)
	b)	Explain branching statements in C++ with examples.	(6)
	c)	State the difference between break and continue statements.	(4)
3	a)	Describe precedence and associativity of operators.	(4)
	b)	List out and explain the various datatypes used in C++ programming.	(5)
	c)	Write a C++ program to find the sum of the series $1^2 + 2^2 + 3^2 + \ldots\ldots + 10^2$.	(6)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	List out five library functions in C++ and give their uses.	(5)
	b)	Define arrays. Explain declaration and initialization of an array.	(5)
	c)	Write a program to find the average of 50 marks entered by user in an array.	(5)
5	a)	Write down the general syntax for creating a class.	(3)
	b)	Explain the purpose and application of friend function.	(5)
	c)	Write a C++ program to calculate the area of a sphere and a cylinder using function overloading.	(7)
6	a)	Explain overloading. Write an example program for overloading binary operator.	(5)
	b)	Describe the different types of inheritances in C++ with the help of diagrams.	(10)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	Explain memory management operators with the help of an example program.	(10)
	b)	Explain pointers within a class and pointers to object members.	(10)
8	a)	Illustrate the concept of Runtime Polymorphism making use of Late binding in a C++ program.	(10)
	b)	Develop a function to calculate the pressure P at any height h in a storage tank. (Use P = hρg, ρ is density of fluid, g= 9.81 m/s*2*). From the main function, pass the values of h and ρ using pointers to calculate and display the value of pressure.	(10)
9	a)	List out the different file streams in C++ and explain the purpose of each.	(10)
	b)	You are assigned with the duty of developing software to manage the inventory in a newly commissioned DCDA sulphuric acid plant. Write a C++ program to get Molecular weight density, Latent heat and flash point of the chemicals involved from the user and store these details into a file called 'chemicals.dat'	(10)

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